



# Newsletter

No3 2020

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## Coronavirus .

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Still in lockdown, we are probably all going stir crazy but hopefully this newsletter will give you a little light relief. It has raised my spirits thinking of articles to put in, why not give it a try and write something yourself to cheer your fellow members up. Don't forget, if you need help let us know we may not be able to produce miracles but we will do what we can.



### Mower fund target £6000

Still only £497.51 Why do we need a new mower? Well the one we have at the moment is in a sad state of repair. The fuel is fed to the engine through a plastic pipe drilled through the filler cap as the tank has too much gunk in it. The hydraulics don't work so it takes 3 people to raise and lower the cutters using a long pole. When the field is very wet you can't cut a third of the runway or you'll get stuck as it's just too heavy. Things must be bad when last cut this is how we did it. Go on zoom in, we even had to borrow

Tom's hand mower to cut the runway!!!

You can make a donation through [gofundme.com](https://www.gofundme.com/f/KRMFC-raising-funds-for-a-new-grass-mower?sharetype=teams&member=2955562&utm_medium=social&utm_source=whatsapp&utm_campaign=pna) at [https://www.gofundme.com/f/KRMFC-raising-funds-for-a-new-grass-mower?sharetype=teams&member=2955562&utm\\_medium=social&utm\\_source=whatsapp&utm\\_campaign=pna](https://www.gofundme.com/f/KRMFC-raising-funds-for-a-new-grass-mower?sharetype=teams&member=2955562&utm_medium=social&utm_source=whatsapp&utm_campaign=pna)

## Trimming Out a Model

Hi All,

Alan asked me for a contribution to the new club newsletter, so sorry everyone its Alan's fault!!

I'm Dave Kelly. I'm usually seen around the club flying Aerobatic Pattern aircraft and Jets. Both of these models share a number of attributes, the main similarity is in the set-up (model and radio), control harmonisation and trimming.

The object of the article is not to spend money buying more new equipment, it's to use the down time we have with the lockdown in place right now to optimise the equipment you already have regardless of the type of model.

I'll give a few very basic pointers for flying set-up later but before that let's start with radio.

It amazes me when I see some people's models and they are running massive servo arms and then very low "rates"...the most undesirable set-up ever!! It puts a huge strain on the servo, uses a lot of your RX battery and works the servo pot hard in and around the centre (with only a small percentage of the servo's travel used, the resolution and proportionality you get from the servo is significantly reduced). When I set-up a servo for a control surface I am looking for the smallest servo arm and the largest control surface horn to get me the required movement. It unloads the servo, maximises torque, uses less battery, helps prevent aerodynamic blowback and flutter at high speed and uses the maximum movement and resolution of the servo. I try not to use Z-Bend Linkages either as they do encourage slop. I prefer to use clevises and Ball joints with the shortest pushrod to maintain equal geometry. In a perfect set-up and on a new model you should just be able to feel the backlash in the servo gears when you move the control surface gently by hand.

*Below: Flaps retracted showing short servo output arm to maximise servo torque.*



*Below: Flaps/Airbrake extended showing straight alignment of servo linkage across servo output centreline. (Minimising servo effort)*



Many pilots have the latest computer transmitter offering with a billion channels, telemetry and every conceivable feature from the manufacturer. They pass you the tranny for the test flight and say “that’s your elevator rate switch there, that’s your aileron rate switch and rudder lives here”...Up until 20 years ago dual rates were the be-all and end all of setting up a model. I have not used dual rates for years and I don’t know any other pilots on the aerobatic circuit that do either. That new radio set you’re holding and have invested in has a menu called “Flight Conditions” if it’s Futaba or Hi-Tec, and “Flight Modes” if it’s JR or Spektrum. This tidily handles every condition, or mode you are likely to need during a flight! Honestly it does! And all with the click of one switch!!! The added advantage of this is ergonomics. You can keep your hands on the sticks whilst changing one switch. Moving three switches makes it harder to keep fingers on sticks.



*Above: Flight condition page as on Futaba 18SZ. (This is on transmitter switch on. Landing gear down and I have the flaps retracted) in addition (Logic switching is to achieve a control trim setting with gear and 1/2 flaps or full flaps down together using the same flap and retract switches on the tranny, I named this take-off and landing conditions)*

IN A SPARE MODEL MEMORY, please! Have a look in your radio AND EXPLORE. In addition to setting various rates for all three major control surfaces, trims and rates can also be separated for different flight configurations (i.e. flaps or undercarriage down) or if you need to do a specific manoeuvre such as stall turns, snap roll or spins...ALL FROM A SINGLE SWITCH. If using this radio function, in a single test flight you can set the trim for straight and level flight, with gear up and down, flaps extended or retracted. Guessing what flap-elevator mix or singular mixes to use and by what percentage (making adjustments every single test flight) are no longer required. You fly the model and trim for each phase/condition and mode of flight. So straight and level flaps up, trim model, straight and level flaps take-off position trim model and straight and level flaps landing position trim model ALL OF THIS using conventional elevator trim. The trim position is now memorised for each flap selection. Additionally various rates (multiple rates) can be applied to each condition so for example in slow flight with flaps extended a higher control rate/throw can be selected than that used for higher speed flight, aircraft clean flaps and undercarriage retracted.

By way of an experiment I recently set-up a model with flaps just using a standard mix of elevator down to retracted flap in percentages, take-off flap and full landing flap...What could have been trimmed in one flight using conditions...took me 8!! 8 Flights to get the mix/elevator compensation right!

A VERY useful feature, given we live in Scotland and weather can be a limiting factor in any test flying programme!!!!



*Above: Futaba 18SZ Linkage menu "trim setting" tab showing elevator, aileron and rudder trim separated for adjustment with various flight conditions e.g. flap and landing gear extension etc. (T3 is the throttle trim.. I only use one throttle trim in this installation so it remains in Comb=Combined mode)*

That's enough about radios.....if you're still reading? It's back to the workshop

So let's cover the model set-up firstly. Any model should be straight and true, any inaccuracies here and trimming will be required. I use a laser level I was gifted. I believe it came from an AVON Catalogue!! Tail planes need to be square to the wings surface (as viewed from the front) and also vertically I.e. using wire/meterstick to measure from wing-tip trailing edge to tail plane tip on each side looking for the same distance on both. With a model that has been set square you will save yourself a load of time and effort trimming at the field later on. Another item to check although (not modify just yet) is lateral balance. By this I mean power up your radio, straighten the rudder, place the rudder on a flat surface and support the model by as close to the centre of the spinner as you can. Note which wing falls, and is therefore heavier and by how much. On a calm day point the model directly into the wind (e.g. upwind or left to right) and pull through a succession of loops. If the model screws in one direction (it is getting further away or closer to you during looping), repeat this process flying directly downwind (e.g. right to left) this time. If the phenomena is opposed, It could be you need to add some wingtip weight (coins taped to the wingtip works temporarily) to keep the model flying in a straight line.

For first flights always aim for a C of G on or slightly forward of the location stated within the instructions or on the plan. Remember a forward C of G is usually very manageable, an aft C of G can make for a "test fright!" I find that when flying a model that's perfectly in trim with the correct C of G, when in upright straight and level flight then roll inverted, you should need very slight forward (down elevator) to maintain level flight inverted. That's a simple means to check for a mostly correct C of G.

Please note I have not told anyone to buy any equipment or models in this article! The idea of this article was just that of optimising what you have and increasing your enjoyment and potential with your existing equipment.

I do hope this lockdown and ban on flying we are experiencing ends soon and we all get to enjoy our hobby again soon. Stay healthy. Best wishes for the coming season. Dave Kelly

## News Flash Bob Gadd Found

One of our committee members went missing in mid January, suspecting that he may have succumbed to the deadly menace that is affecting all of us at the present (he wasn't even answering his emails), I decided to ring him. Not an easy task for me, as I don't have a landline, the telephone signal is terrible in the house and with 2 screaming kids around suffering with cabin fever it's difficult to hear most of the time. But as my shed is being revamped I had reached a situation when I could sit on my stool in there and I get a better signal and there's no kids to scream and grab the phone.

My heart sunk slightly when his missus answered the phone and the dog started barking, was I going to have bad news of bereavement ? Fortunately not as she said Bob it's for you... turns out he had a fall and has been lazing about in bed for 3 months with all his girlfriend's coming in to wash him and give him massages, or at least get him back on his feet. He has in the last few days finally been able to use his Zimmer frame to get around the living room, next he's going to try and get to the computer. He obviously thinks we are all wimps talking about the lockdown as if it's hard.

Try lying on your back for 3 months not being able to move and you will see what deprivation is really like.

I am sure that he would appreciate a call.

Alan

Or you could write an article of any length and entertain him and all of your fellow flying friends in this time of lockdown..... 😊

## Space for your article.

Blah Blah Blah Blah Blah Blah, Blah, Blah. Waffle, Waffle, Waffle etc.....

## Committee Profile Mike Hill

I built and flew free flight models as a kid. The Veron Cardinal was the biggest and best, all balsa, tissue and dope. It had a DC Dart engine if I remember rightly.

I didn't get back into modelling until the early 90s. A workmate asked me to repair some RC gear from his son's crashed plane. After fixing the gear he decided to give up the hobby so I bought it from him. It was an old Acoms set. After that, I built a trainer, a Yamamoto. I joined Glenrothes club and flew until the model was lost in a nearby field. Spent weeks looking for it, only to be found by a combine harvester 🤖🤖🤖🤖 certainly wasn't worth rebuilding!!!!

Playing the sympathy card with the wife I bought new gear. Futaba Challenger and a heli, MFA Sport fixed pitch. Balancing the pitch was done by bending the blade grip with a shifter! I never flew it very well as I couldn't tell if it was me or the heli that decided where it wanted to go!

From there I tried a scratch build plane, the silver one shown here, that didn't go too well



either. 😊 I'd built wash in on the wing 😞 and couldn't work out why the wing stalled at every opportunity.

Joined KRMFC just after it was formed. Flying an old low wing model at Balado I had a throttle failure which had me flying in circles until it ran out of fuel. It was winter and by the time the engine cut I couldn't feel the sticks, it stalled on the dead stick final turn and it ploughed into the runway! Could have just stuck it into the ground earlier and would have saved the frostbite fingers with the same result!

Once I had a receiver battery fall out of a heli while flying at Tillyrie. Luckily was just below hovering throttle and the heli landed in the long grass still running. Could not get near to it to kill the engine, and had to wait until it ran out of fuel and finished cutting the grass! 20 minutes of my life I'll not get back. 🤖🤖🤖



I once had a nice 90 size Hirobo Freya flying at our current site that I attempted to loop from too low. I managed somehow to hit the concrete bridge over the burn, probably 2m x 2m area. If it hit anywhere else, it would have survived!

Not even going to mention the unpinned elevator on the Corsair!

Many models flown between these but who wants to hear “just a slight trim and it flew perfectly”



Looking forward to when this is all over and I can get crashing again 😊

There does seem to be a common factor in all the crashes. There was one person present at most of the incidents, not going to name names, you all know who I'm talking about 😊

Mike

Just in case you don't know about the Corsair incident look here

<https://www.facebook.com/203747633155043/posts/1177174279145702>

## Articles wanted

Come on all you budding journalists send me your articles. Many thanks to Neil, Mike, Billy and Dave for their submissions. With this enforced lockdown get typing, before we all go stir crazy. My email is [alnvkrmfc@gmail.com](mailto:alnvkrmfc@gmail.com)



## Apprentice Tail Plane Replacement.

As I mentioned in my previous article I have now replaced the tail plane on my Apprentice with one made of balsa. It was getting very expensive as I was on my 3<sup>rd</sup> tail plane, which cost £23+P&P every time I



ordered a new one, and I suspect stock eventually would have run out at Wheelspin Models. Damage to the tail wasn't always caused by flying. A couple of times it was just removing it from the garage or taking it out of my car. Twice, it came down on the barbed wire fence. But the most dramatic event was the barrel roll when I put in up-elevator whilst it was upside down! That almost destroyed the plane completely.

Finally in November 2019 I bought some 5mm (3/16") balsa at Scoonies and started making a tail plane. First I drew around the original tail plane, both the vertical and horizontal tail planes, as it was important to get them symmetrical and the same size and shape as the original. After a lot of sanding and shaping I decided that it lacked rigidity and was as floppy as the foam original, so I bought some more balsa from



Scoonies, but this time 1.6mm (1/16") sheet, which was applied with the grain running at 90 degrees to the 5mm balsa grain and provided a stiff but light structure. I wonder why some balsa is sold in metric and some in Imperial? 5 millimetres makes much more sense than 1/16 inches. Parts of an inch went out when I went to school and that wasn't yesterday! I tried balsa cement to laminate the two types of balsa but it didn't work very well so I used easy sand wood glue instead and that worked well.

Once both sections of the tail plane were completed and the same shape and size of the original, I used thinned light weight filler to seal the wood. I also applied thinned dope to provide a good finish as I was just going to fit it like that and add the decals from the original tail plane. Hinges for the elevator and fin were made from plastic strips pinned using cocktail sticks and super glue (Mike!). The problem now of course



was that the tail plane was too heavy and was over twice the weight of the original foam tail plane. That would have meant a tremendous weight having to be added to the front of the fuselage to bring the centre of gravity back to the correct position, which would have compromised its flight characteristics. (i.e it wouldn't have been as "floaty").

I decided to cut shapes out of both sections and cover with film. I bought some second hand film from Milnathort's "bring and buy" and Alan V contributed some extra. (Thanks Alan, will bring the remainder back when I see you). Who can recommend a good source of film covering and what type is the most popular? In my youth I used Solarfilm and I see it is still available (ish). The tail plane is still heavier than the original but I added a couple of large bolts inside the cowl which I hoped would put the CG back in the correct place.



On 22 March, before the total lockdown, and almost 3 months after starting the build, I test flew the Apprentice with its new tail. It flew well apart from the strong wind but was still a little tail heavy. I have

added another large bolt to the front and the CG is now where it should be at 79mm from the leading edge, but I will have to wait now until we can get all get flying again.

Next project: the Super Stearman 46 that Billy donated to me. OS 46AX II engine and fuel tank ordered!

Neil

**A last minute addition, but be quick these items are going quickly, from Guy.**

## FOR SALE

Sadly I am having to give up any prospect of flying in the future and reluctantly have decided to sell all my flying equipment, (plus some workshop items).

I would like to thank all club members who have helped me in the past and I wish you all many happy take offs and more importantly landings!

The items are listed in good faith with guide prices which I am happy to discuss. I would hope the items will be of use to members and enable them to enjoy the hobby.

Once the bulk of the items are sold I will donate 10% of the sales to the Club.

Contact Tel: 01577 862672                      email: gphawksford@gmail.com      Items located in Kinross

Best wishes,      Guy Hawksford

### **Non Model Aircraft items**

Invertec V140S arc welder, gas valve, helmet, apron, gloves all leads, tig hose and lead. Hardly used. £240

Proxxon small bench grinder with buffing / polishing attachments. £45

### **Aircraft items**

ANS Mann Xbase 2 charger, £25.00

manual is online or I can put PDF file on your USB memory stick

Du Bro Tru spin prop balancer £15.00

Max Thrust Riot XL unused, servos, motor, manual £80.00

Hyperion EOS Sentry £10.00

GT Power watt meter £10.00

Turnigy Micro Tacho (new battery fitted) in packet with instructions £10.00

GT Power servo tester and battery £6.00

Dynamite glowplug connector and charger take it and pay £5.00

later if it is ok

Wooden field box with panel, starter, hand pump, spanner £20.00

1 AR635 receiver – condition unknown take it and pay later if it works

## **Yet another space for your article.**

Blah Blah Blah Blah Blah Blah, Blah, Blah. Waffle, Waffle, Waffle etc.....

## A blast from the past

16/02/2014

After weeks of poor weather the gods finally took pity on us and presented us with a half decent day. In turn this brought quite a lot of club members out and a good turnout was shown at the club.

Maintenance to the site was again in full swing with George Robertson tackling broken slabs from the delivery trucks visit, Phil managed to get the last side of the transmitter hut treated, Tom & Davie put their gardening skills to the test and began sorting out the damage to the road in.

The posts which line the route in have had their first coat and we hope to have the second coat done this week and have them in place for the following weekend.

Billy & Dougie managed to finish the netting around the remaining Pilot Box.....and just in time too, Styk Kane arrived with his Ambulance plane and put on a fantastic display of aerobatics and precision pinpoint flying!!

Good news on the Mole front, we have another one in the bag, this is the one that had eluded Billy for so long and had caused so much damage around the Transmitter Hut.



**Tom Wilson ate my Hamst Mole.**

The new club hut proved to be very popular and was packed out a few times, Mike Brownlie checked and tested the electrics and the generator was plugged in.....hey presto we have lights.

If the weather calms down then we hope to get a bit ahead of the maintenance and get things like wood treatment and hut/container painting done as Mother Nature will be letting the grass grow before we know it.

Billy.

Good health to you all

KEEP WELL

The Committee including Bob this time.